

WHAT IS CLAIMED IS:

- 1 1. A method of blurring a digital image, comprising the steps of:
2 separating the image into noisy artifacts and less noisy artifacts;
3 averaging the less noisy artifacts over a spatial range for each pixel of the image; and
4 guiding the noisy artifacts by the less noisy artifacts in the step of averaging.
- 1 2. The method of claim 1, wherein the step of guiding comprises the steps of:
2 determining a difference between a pixel at a centrum of the spatial range and
3 another pixel of the spatial range; and
4 weighting the noisy artifact based on the differences.
- 1 3. The method of claim 2, wherein the steps of determining and weighting are each
2 performed with respect to each pixel of the image and the weighting correlates each
3 spatial range of the less noisy artifacts with each corresponding range of the noisy
4 artifacts.
- 1 4. The method of claim 1, further comprising the step of:
2 deriving a representation noisy artifact as the average of the noisy artifacts; and
3 wherein the steps of guiding and weighting are performed with the representative noisy
4 artifact.

- 1 5. A method of blurring, comprising the steps of:
- 2 deriving a noisy artifact;
- 3 selecting a less noisy artifact;
- 4 subdividing the noisy artifact into a plurality of windows;
- 5 subdividing each of the plurality of windows into a plurality of squares;
- 6 subdividing the less noisy artifact into a plurality of windows corresponding to the
- 7 plurality of windows of the noisy artifact;
- 8 subdividing each of the plurality of windows of the less noisy artifact into a
- 9 plurality of squares corresponding to the plurality of squares of the noisy artifact;
- 10 determining a difference between a square at a centrum of a window of the less
- 11 noisy artifact and another square within the window of the less noisy artifact;
- 12 weighting a value for the square based on the difference;
- 13 summing all of the values for the square as so weighted;
- 14 multiplying a value for the square of the window of the noisy artifact by the result
- 15 of the step of summing;
- 16 summing all of the results of the step of multiplying for each square of the
- 17 window of the noisy artifact; and
- 18 dividing the result of the step of summing all of the results, by the result of the
- 19 step of summing all of the values for the square.

- 1 6. The method of claim 5, further comprising the steps of:

2 clamping the weighting step between minimum and maximum extremes, if the
3 noisy artifact tends to be overly expressed in a result.

1 7. The method of claim 5, further comprising the step of clamping the step of
2 weighting so that the weight for the value is in the range of 0 to 1.

1 8. The method of claim 5, wherein the noisy artifact and the less noisy artifact
2 exhibit the color green; and further comprising the steps of:

3 varying the step of weighting by (a) 75% for the square of the window of the
4 noisy artifact which is less than the square at the centrum of the window of the noisy
5 artifact and (b) 25% for each square of the window of the noisy artifact which is not less
6 than the square at the centrum of the window of the noisy artifact.

1 9. A method of blurring, comprising the step of guiding a noisy artifact by a less
2 noisy artifact.

1 10. The method of claim 9, wherein the step of guiding comprises the step of limiting
2 an expression of an overly expressed property of the noisy artifact.

1 11. The method of claim 10, wherein the noisy artifact exhibits a property of the color
2 green.

12. A method of blurring, comprising the step of weighting a value in a blur region.

13. The method of claim 12, wherein the step of weighting is affected by a less noisy artifact.

14. The method of claim 12, wherein the step of weighting is affected by an extent of a property of an artifact.

15. The method of claim 12, wherein the step of weighting is dictated by a noisy artifact and a less noisy artifact.

1 16. A method of signal processing, comprising the steps of:
2 deriving a noisy artifact and a less noisy artifact from an analog signal; and
3 guiding the noisy artifact by the less noisy artifact.

1 17. The method of claim 16, further comprising the step of averaging a region of the
2 noisy artifact; and wherein the step of guiding correlates the region of the noisy artifact
3 with a corresponding region of the less noisy artifact.

1 18. The method of claim 17, further comprising the step of:
2 repeating the steps of deriving, guiding, and averaging with more than one noisy
3 artifact.

1 19. The method of claim 17, further comprising the step of:
2 repeating the steps of deriving, guiding, and averaging with more than one less
3 noisy artifact.

1 20. The method of claim 17, further comprising the step of:
2 repeating the steps of deriving, guiding, and averaging with more than one noisy
3 artifact and more than one less noisy artifact.

1 21. The method of claim 20, wherein at least one of the more than one noisy artifact
2 corresponds to at least one of the more than one noisy artifact, and vice versa.

22. A system for blurring, comprising:

a noisy artifact;

a less noisy artifact, wherein spatial locations of the less noisy artifact

corresponds to locations of the noisy artifact; and

a computer for guiding the noisy artifact by the less noisy artifact.

23. The system of claim 22, wherein the computer weights the location of the noisy

artifact according to a differential at the corresponding location of the less noisy artifact.